

**THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellant(s): Senoo et al.  
Appl. No.: 09/162,992  
Conf. No.: 9466  
Filed: September 30, 1998  
Title: GEL ELECTRODE SECONDARY CELL  
Art Unit: 1726  
Examiner: Tracy M. Dove  
Docket No.: 3712174-00037

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPELLANTS' REPLY BRIEF**

Sir:

**I. INTRODUCTION**

Appellants submit Appellants' Reply Brief in response to the Examiner's Answer dated October 26, 2012 pursuant to 37 C.F.R. § 41.41(a). Appellants respectfully submit the Examiner's Answer has failed to remedy the deficiencies with respect to the Final Office Action dated February 13, 2012 and the Advisory Action dated May 10, 2012 as noted in Appellants' Appeal Brief filed on August 13, 2012 for at least the reasons set forth below. Accordingly, Appellants respectfully request that the rejections of pending Claims 26-32 and 35-41 be reversed.

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II. THE EXAMINER HAS STILL FAILED TO SHOW THAT INDEPENDENT CLAIM 26 IS RENDERED PRIMA FACIE OBVIOUS BY MACFADDEN AND MARUYAMA

1. The Examiner has still failed to show that the cited references disclose or suggest each and every element of independent Claim 26

Appellants respectfully submit that, even if combinable, *MacFadden* and *Maruyama* fail to disclose each and every element of the present claims. Specifically, Appellants respectfully submit that, even if combinable, *MacFadden* and *Maruyama* fail to disclose or even suggest a gel electrolyte secondary cell wherein the negative electrode active material comprises sintered meso-carbon micro-beads as required, in part, by independent Claim 26.

It is undisputed that the combination of *MacFadden* and *Maruyama* fails to disclose a negative electrode active material including sintered meso-carbon micro beads and instead merely teach “graphite” materials generally. For example, *MacFadden* discloses a carbon anode active material that may be in the form of graphite generally but fails to specify the particular type of graphite material used. See, *MacFadden*, column 4, lines 9-13. *Maruyama* similarly teaches a battery wherein “[t]he carbon used as the active material may be properly selected from natural or artificial graphite” but fails to specify the starting material or production process for the graphite. See, *Maruyama*, column 5, lines 9-10. Therefore, even if combinable, one of ordinary skill in the art would understand that *MacFadden* and *Maruyama* fail to disclose or suggest a negative electrode active material comprising sintered meso-carbon micro-beads.

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2. The limitation that the negative electrode active material comprises “sintered meso-carbon micro-beads” should be given patentable weight

To overcome this deficiency, the Examiner asserts that the phrase “comprises sintered meso-carbon micro-beads” is a product-by-process limitation which should not be given patentable weight because the claims merely “require a graphite material” and there is no evidence of unexpected results for the material used to obtain *the graphite*. See, Examiner’s Answer, page 4, lines 19-22; page 5, lines 1-2.

- A. One of ordinary skill in the art would understand that different starting materials result in graphite materials having different properties

Appellants respectfully submit that the Examiner's refusal to give patentable weight to this limitation ignores the knowledge of one of ordinary skill in the art as set forth in Appellants' Specification and the Affidavit submitted on August 9, 2011. As explained in the Specification and the *Affidavit*, it is well known in the art that the physical properties of graphite materials **vary based on the starting material and the production process**. See, Specification, page 5, lines 16-21; page 6, lines 1-5; *Affidavit*, ¶¶ 4-5 (emphasis added). One of ordinary skill in the art would thus understand that different production processes and different starting materials result in different graphite materials having **widely varying** physical properties and, as a result, a negative electrode active material comprising sintered meso-carbon micro-beads is distinct and nonobvious from graphite materials formed using other starting materials such as fired petroleum coke. See, Specification, page 5, lines 17-19; page 20, lines 4-12; Table 1. As a result, Appellants respectfully submit that the limitation "sintered meso-carbon micro-beads" is entitled to patentable weight.

- B. The Specification and Affidavit demonstrate unexpected results for a graphite material comprising sintered meso-carbon micro beads

Appellants also respectfully submit that the limitation should be given patentable weight because, contrary to the Examiner's assertion, the Specification demonstrates unexpected results between active materials comprising sintered meso-carbon micro-beads and graphite materials formed by other processes and starting materials. For example, Table 1 demonstrates charging/discharging efficiencies for a gel electrode cell containing a lithium metal foil positive electrode, an electrolyte composed of 35 mol % propylene carbonate and 65 mol % ethylene carbonate, and a negative electrode when various carbonaceous materials were used as the negative electrode active material. See, *Affidavit*, ¶ 6. When the negative electrode material was a fired material of **meso-carbon micro-beads** having a particle size such that the specific surface area is 3.6 m<sup>2</sup>/g and 1.2 m<sup>2</sup>/g, respectively, initial charging/discharging efficiencies of 82.8% and 82.6% were obtained. See, *Affidavit*, ¶ 6; Specification, Table 1.

In contrast, when the same cell was used except that the negative electrode material was a *fired petroleum coke* having a specific surface area of  $4.5 \text{ m}^2/\text{g}$ , the initial charging/discharging efficiency was significantly lower – 61%. See, *Affidavit*, ¶ 6; Specification, Table 1. One of ordinary skill in the art would thus understand that a gel electrolyte secondary cell including a negative electrode active material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate and is thus nonobvious over gel electrolyte secondary cells including graphite materials formed from other starting materials. See, *Affidavit*, ¶ 6.

The Examiner continues to allege that the evidence of unexpected results is not persuasive because the comparative examples in the Specification are not representative of *MacFadden* and *Maruyama*. See, Examiner's Answer, page 12, lines 14-19. However, evidence of unexpected results need not compare the invention with the prior art of record and instead must compare the claimed subject matter "with the closest prior art." See, M.P.E.P. § 716.02(e) (2012) (emphasis added). The claimed invention may be compared with prior art that is more closely related to the invention than the prior art relied upon by the examiner. See, M.P.E.P. § 716.02(e)(I) (2012).

For example, in *Ex parte Humber*, the Patent Office rejected claims to a 13-chloro substituted compound as obvious over nonchlorinated analogs of the claimed compound. 217 U.S.P.Q. 265 (Bd. App. 1961). "Evidence showing unexpected results for the claimed compound as compared with the 9-, 12-, and 14- chloro derivatives of the compound rebutted the *prima facie* case of obviousness because the compounds compared against were closer to the claimed invention than the prior art relied upon." *Id.* (cited in M.P.E.P. § 716.02(e)(I) (2012)). Similarly, the Specification in this case demonstrates unexpectedly high initial charging/discharging efficiencies for a graphite material comprising sintered meso-carbon micro-beads as compared with a specific graphite material comprising fired petroleum coke. See, Specification, Tables 1-2. In contrast, the prior art relied on by the Examiner merely discloses "graphite" anode active materials, without any teaching regarding the particular starting material or process used to make the "graphite" material. See, *MacFadden*, column 4, lines 9-13; *Maruyama*, column 5, lines 9-10. As such, Appellants' evidence of unexpected results compares closer prior art than the art relied on by the Examiner and is sufficient to show nonobviousness.

In response to Appellants' arguments regarding closer prior art, the Examiner alleges that Appellants merely cite case law without an analysis of how the specifics of the cases apply to the present claims. See, Examiner's Answer, page 13, lines 17-20. However, contrary to the Examiner's allegation, Appellants explained how the *Ex parte Humber* case was analogous to the present claims because the prior art in this case does not disclose a specific graphite material, whereas the Specification compares the claimed sintered meso-carbon micro-beads with closer prior art, i.e., a specific graphite material formed of fired petroleum coke.

Moreover, Appellants respectfully submit that it would be impossible to compare the claimed material to the graphite materials of the cited references precisely because *MacFadden* and *Maruyama* **do not disclose specific graphite materials** or the specific starting materials used to make its "graphite," and, thus, the exact specifications for those materials do not exist. "Although evidence of unexpected results must compare the claimed invention with the closest prior art, applicant is not required to compare the claimed invention with subject matter **that does not exist** in the prior art." See, M.P.E.P. § 716.02(e)(III) (2012) (emphasis added) (citing *In re Chapman*, 357 F.2d 418, 148 U.S.P.Q. 711 (CCPA 1966) and stating that "Requiring applicant to compare claimed invention with polymer suggested by the combination of references relied upon in the rejection of the claimed invention under 35 U.S.C. 103 'would be requiring comparison of the results of the invention with the results of the invention'").

3. The Specification and Affidavit demonstrate unexpected results for a negative electrode active material comprising sintered meso-carbon micro-beads

For at least substantially the same reasons discussed previously, Appellants respectfully submit that it would not have been obvious to combine the teachings of *MacFadden* and *Maruyama* to arrive at the present claims because the Specification and *Affidavit* demonstrate unexpected results. Specifically, the Specification and *Affidavit* show that a gel electrolyte secondary cell including a negative electrode active material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate and is thus nonobvious over gel electrolyte secondary cells including graphite materials formed from other starting materials.

**III. THE EXAMINER HAS STILL FAILED TO SHOW THAT INDEPENDENT CLAIM 26 IS RENDERED *PRIMA FACIE* OBVIOUS BY *MACFADDEN* AND *OZAKI***

1. The Examiner has still failed to show that the cited references disclose or suggest each and every element of independent Claim 26

For example, even if combinable, *MacFadden* and *Ozaki* fail to disclose or suggest using sintered meso-carbon micro-beads having the claimed size in combination with a solvent containing propylene carbonate as required, in part, by Claim 26. As supported by the *Affidavit*, *MacFadden* merely discloses using graphite in a solid polymer electrolyte cell containing propylene carbonate and fails to teach that the graphite comprises sintered meso-carbon micro-beads. See, *MacFadden*, column 4, lines 9-13; column 5, lines 11-20; *Affidavit*, ¶ 8. *Ozaki* merely discloses a micro-bead based electrode with an electrolyte containing ethylene carbonate, diethyl carbonate and methyl propionate and fails to teach the claimed combination of sintered meso-carbon micro-beads having the claimed size and a solvent containing propylene carbonate. See, *Ozaki*, column 2, lines 66-67; column 3, lines 1-7; column 4, lines 54-58; *Affidavit*, ¶ 10. Instead, pursuant to conventional wisdom, *Ozaki* teaches that propylene carbonate generates unfavorable side reactions with its small-sized graphite particles and therefore should not be used with its graphite particles. See, *Ozaki*, column 7, lines 5-16; *Affidavit*, ¶ 10.

2. The prior Board decision should not be controlling on the issue of *Ozaki* teaching away from the use of propylene carbonate with its carbon particles

Appellants respectfully submit that the Examiner's continued reliance on the prior decision of the Board of Patent Appeals mischaracterizes the prior decision. In the Examiner's Answer dated March 9, 2004, the Examiner argued that "Ozaki is not applied to teach the electrolyte of the instant claims. . . . One of skill would be motivated to use the negative electrode of Ozaki for the negative electrode of Akashi because Akashi clearly suggests a negative electrode comprising a graphitized carbonaceous material." See, Examiner's Answer dated March 9, 2004, page 5, lines 19-22; page 6, lines 1-2.

The Board merely agreed with the Examiner that *Akashi* was being relied on for the teaching of propylene carbonate and, thus, *Ozaki* was not necessary to show the required element of a solvent containing propylene carbonate:

Appellants also maintain that *Akashi* and *Ozaki* are not combinable because *Ozaki* ‘clearly disfavors the use of propylene carbonate as an organic solvent of the organic electrolyte for the non-aqueous electrolyte’ (page 8 of principal brief, third paragraph). However, *Akashi, not Ozaki, discloses the use of propylene carbonate as an organic solvent. . .*

See, Board Decision dated January 19, 2006 (“Board Decision”), page 5, lines 4-9. The Board further stated that “appellants have not demonstrated why one of ordinary skill in the art would have been dissuaded *from using the carbonaceous material of Ozaki for the negative electrode of Akashi.*” See, Board Decision, page 5, lines 9-12 (emphasis added). However, the issue now is not whether one skilled in the art would have had a reason to substitute the carbonaceous material of *Ozaki* for the negative electrode material of *Akashi* but rather whether *Ozaki teaches away* from using propylene carbonate *with its mesophase graphite particles*. The Board never addressed whether *Ozaki teaches away* from the use of propylene carbonate. In fact, none of the Examiner’s Answer, the Appeal Brief dated January 1, 2004 or the Board Decision ever uses the phrase “teaching away.”

Appellants also submit that the Board’s previous decision should not be controlling here because the claims have been amended several times, specifically regarding the amount of propylene carbonate and the particle size of the graphite, since the Board Decision issued. Regardless of whether it would have been obvious to replace the graphite material of *MacFadden* with the mesophase graphite particles of *Ozaki*, it is improper for the Examiner to ignore portions of *Ozaki* that teach away from using its graphite material with propylene carbonate. See, M.P.E.P. § 2141.02 (VI) (2012) (“A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention”).

3. *Ozaki teaches away from the use of propylene carbonate with its mesophase graphite particles*

*Ozaki* expressly teaches that “**propylene carbonate (PC) is not employed**” as a solvent with its carbon particles “because [PC] decomposes to generate a gas [at] during charging.” See, *Ozaki*, column 7, lines 5-8 (emphasis added). As discussed previously, one of ordinary skill in

the art would understand that propylene carbonate decomposes in a graphite-based cell due to the instability of propylene carbonate *against a graphite material*. See, Specification, page 5, lines 6-15. Furthermore, as set forth in the Specification and *Affidavit*, it is well known that the degree of decomposition of propylene carbonate in a graphite cell varies depending on the physical properties of the graphite material. See, *Affidavit*, ¶ 5; Specification, page 5, lines 16-21; page 6, lines 1-5. As such, *Ozaki*'s teaching not to use propylene carbonate because it decomposes would have suggested to one of ordinary skill in the art that propylene carbonate would decompose *due to the reaction with the mesophase graphite particles* of *Ozaki*. Therefore, Appellants respectfully submit that *Ozaki* teaches away from using its mesophase graphite particles with a solvent containing propylene carbonate.

The Examiner further attempts to rebut Appellants' arguments by noting that "the claims on appeal require as little as 10 mol% of propylene carbonate." See, Examiner's Answer, page 15, lines 8-9. However, one of ordinary skill in the art would understand that *Ozaki* teaches away from using *any* propylene carbonate with its graphite particles. For example, *Ozaki* teaches that, unlike propylene carbonate, ethylene carbonate can be mixed with other solvents because it does not have the same unfavorable side reactions as propylene carbonate:

On the other hand, ethylene carbonate (EC) used *alone* is not suitable, since it has a high melting temperature and is solid at ordinary temperature, *though it has no unfavorable side reaction, as of PC*. However, *EC may be used in a mixed solvent* of EC and either ether such as 1,2 dimethoxyethane, chain carbonate such as diethyl carbonate, ethyl methyl carbonate, or aliphatic-carboxylic acid ester such as methyl propionate. . . .

See, *Ozaki*, column 7, lines 8-16 (emphasis added). This portion of *Ozaki* indicates that propylene carbonate would not be suitable for use in its solvent under any conditions, either alone or mixed with other solvents. Furthermore, *Ozaki* expressly states that propylene carbonate is "not employed" as a solvent in its electrolyte. See, *Ozaki*, column 7, lines 5-8. Therefore, one of ordinary skill in the art would understand that *Ozaki* teaches away from using *any* propylene carbonate with its mesophase graphite particles. Moreover, Appellants respectfully note that Claim 41 requires 35 mol% propylene carbonate and 65 mol% ethylene carbonate, rather than the 10 mol% limitation addressed by the Board.



The Examiner further asserts that the section of *Ozaki* cited by Appellants as assertedly teaching away from the claimed invention (col. 2, lines 3-6) is part of the background section of *Ozaki*. See, Examiner's Answer, page 15, lines 13-15. However, Appellants respectfully note that the portion of *Ozaki* that teaches away from using propylene carbonate with its mesophase graphite particles is column 7, lines 5-16, which is not part of the background section. See, *Ozaki*, column 7, lines 5-16. Moreover, Appellants note, even if the alleged teaching away in *Ozaki* occurred in the background section, any portions of a reference that teach away from other cited references or the claims must be considered (i.e., the references must be considered as a whole). *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). Appellants respectfully submit that the Examiner has failed to consider *Ozaki* as a whole, including those portions of *Ozaki* teaching away from the present claims.

Claim 26 requires the claimed graphite material to be used in combination with a solvent containing propylene carbonate. In stark contrast, as discussed previously, *Ozaki* teaches that propylene carbonate is not used as a solvent with its mesophase carbon micro beads. See, *Ozaki*, column 7, lines 5-11. One of ordinary skill in the art would thus have been discouraged from using the mesophase carbon micro beads of *Ozaki* with a propylene carbonate solvent.

4. Appellants proceeded contrary to the conventional understanding regarding propylene carbonate

The combination of propylene carbonate and sintered meso-carbon micro-beads having the claimed particle size would also not have been obvious because Appellants ***proceeded contrary to the conventional understanding*** at the time of the invention. "The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness. *In re Hedges*, 783 F.2d 1038 (Fed. Cir. 1986) (Applicant's claimed process for sulfonating diphenyl sulfone at a temperature above 127° C was contrary to accepted wisdom because the prior art as a whole suggested using lower temperatures for optimum results as evidenced by charring, decomposition, or reduced yields at higher temperatures)." See, M.P.E.P. § 2145(X)(D)(3) (2012). "Furthermore, '[k]nown disadvantages in old devices which would ***naturally discourage search for new inventions*** may be taken into account in determining obviousness.'" *Id.* (citation omitted).

As discussed previously, it was well-known in the art that the decomposition of propylene carbonate is significant if the graphite material has a small particle size, thereby resulting in a lower charging/discharging efficiency of the battery. See, *Affidavit*, ¶ 5. Thus, the conventional understanding at the time of the invention was that it was undesirable to use graphite having a small particle size in a battery containing propylene carbonate in the electrolytic solution. *Id.* This is supported by *Ozaki's* teaching that it was unfavorable to use propylene carbonate with its mesophase graphite particles. See, *Ozaki*, column 7, lines 5-16. However, Appellants surprisingly discovered that when sintered meso-carbon micro-beads are used, a high charging/discharging efficiency can be obtained in a gel electrolyte containing propylene carbonate even when the graphite material has a small particle size. See, Specification, page 7, lines 13-21; page 8, lines 1-4. This discovery is contrary to conventional wisdom and, thus, it would not have been obvious to combine the mesophase particles of *Ozaki* with the propylene carbonate of *MacFadden* to arrive at the present claims.

5. The Specification and Affidavit demonstrate unexpected results when sintered meso-carbon micro-beads having the claimed particle size are used in combination with propylene carbonate

Appellants respectfully submit that it would not have been obvious to combine the propylene carbonate of *MacFadden* with the mesophase graphite particles of *Ozaki* to arrive at the present claims because the claimed combination achieves unexpected results. See, *Affidavit*, ¶¶ 6-7. As demonstrated in Table 1 of the Specification, a coin-shaped gel electrode cell containing a lithium metal foil positive electrode, an electrolyte composed of 35 mol % propylene carbonate and 65 mol % ethylene carbonate, and a negative electrode comprising various graphite materials was evaluated. See, *Affidavit*, ¶ 6. When the graphite negative electrode material was a fired material of meso-carbon micro-beads having a particle size such that the specific surface area is 3.6 m<sup>2</sup>/g and 1.2 m<sup>2</sup>/g, respectively, initial charging/discharging efficiencies of 82.8% and 82.6% were obtained. See, *Affidavit*, ¶ 6. In contrast, when the same cell was used and the graphite negative electrode material was a fired petroleum coke having a specific surface area of 4.5 m<sup>2</sup>/g, the initial charging/discharging efficiency was significantly lower – 61%.

Similarly, Table 2 demonstrates initial charging/discharging efficiencies of 74.5% and 74.1% in a gel electrolyte cell containing propylene carbonate when a graphite material comprised of sintered meso-carbon micro-beads is used as the anode material, whereas a *significantly lower efficiency of only 56%* is achieved in the same gel electrolyte cell when the anode material is substituted with a graphite material obtained by firing petroleum coke. See, *Affidavit*, ¶ 7. As such, one of ordinary skill in the art would understand that a graphite material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate.

**IV. THE EXAMINER HAS STILL FAILED TO SHOW THAT INDEPENDENT CLAIM 26 IS RENDERED *PRIMA FACIE* OBVIOUS BY AKASHI AND OZAKI**

1. The Examiner has still failed to show that the cited references disclose or suggest each and every element of independent Claim 26

Appellants surprisingly discovered that when the anode material comprises sintered meso-carbon micro-beads, a high charging/discharging efficiency can be obtained in a gel electrolyte containing propylene carbonate even when the material has a small particle size and, thus, a high discharge capacity. See, Specification, page 7, lines 13-21; page 8, lines 1-4.

However, even if combinable, *Akashi* and *Ozaki* fail to disclose a gel electrolyte secondary cell including sintered meso-carbon micro-beads having the claimed size in combination with a solvent containing propylene carbonate as required, in part, by Claim 26. As discussed previously, *Ozaki* fails to teach the claimed combination of sintered meso-carbon micro-beads having the claimed size and a solvent containing propylene carbonate. See, *Affidavit*, ¶ 10. *Akashi* is too general in scope to lead one skilled in the art to the gel electrolyte secondary cell as specifically claimed, when considered in combination with *Ozaki*. For example, *Akashi* merely teaches generally that “graphite” can be used as a negative electrode material and propylene carbonate can be used in its solvent but fails to teach using propylene carbonate specifically when graphite is used as the negative electrode active material. See, *Akashi*, page 4, lines 3-9; page 5, lines 3-16; *Affidavit*, ¶ 11. In fact, the only specific example in *Akashi* including propylene carbonate discloses using the propylene carbonate with a lithium

metal anode. See, *Akashi*, page 10, lines 29-40; page 11, lines 1-6; *Affidavit*, ¶ 11. Thus, even if combinable, *Akashi* and *Ozaki* fail to disclose using sintered meso-carbon micro-beads having the claimed size in combination with propylene carbonate in accordance with independent Claim 26.

2. It would not have been obvious to combine the teachings of *Akashi* and *Ozaki* to arrive at independent Claim 26

For at least the reasons discussed previously and as supported by the *Affidavit*, it would not have been obvious to combine the mesophase graphite particles of *Ozaki* with a solvent containing propylene carbonate to arrive at the present claims because: (1) *Ozaki* teaches away from using its mesophase carbon particles with a propylene carbonate solvent; (2) the only specific support in *Akashi* for using propylene carbonate is with a lithium metal negative electrode active material and not graphite, let alone graphite having the claimed size and formed of sintered meso-carbon micro beads as claimed; and (3) combining sintered meso-carbon micro-beads having a small particle size with an electrolyte containing propylene carbonate was contrary to conventional wisdom at the time of the invention. See, *Ozaki*, column 7, lines 5-16; Specification, Tables 1-2; *Affidavit*, ¶¶ 5-7.

Furthermore, Appellants respectfully submit that it would not have been obvious to combine the propylene carbonate of *Akashi* with the mesophase graphite particles of *Ozaki* to arrive at the present claims because the claimed combination achieves unexpected results. See, *Affidavit*, ¶¶ 6-7. As discussed previously, the Specification and *Affidavit* demonstrate that a graphite material comprising sintered meso-carbon micro-beads having the claimed particle size achieves an unexpectedly high charging/discharging efficiency when combined with propylene carbonate.

**V. CONCLUSION**


Appellants respectfully submit that the cited references alone or in combination fail to disclose or suggest each and every element of independent Claim 26. Moreover, Appellants respectfully submit that the Examiner is using Appellants' patent application as a road map for creating hindsight obviousness and has failed to set forth sufficient reasons for how the skilled artisan would have arrived at the claimed invention in view of the cited references. Accordingly, Appellants respectfully submit that independent Claim 26, along with any claims that depend from Claim 26, is novel, nonobvious and distinguishable from the cited references and is in condition for allowance.

No fee is due in connection with this Reply Brief. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712174-00037 on the account statement.

Respectfully submitted,

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BY

  
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